Strategies for stemming the opioid crisis

How data analytics can help health plans and pharmacy benefit managers chart their course

A report by the Deloitte Center for Health Solutions
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Executive summary

The opioid crisis in the United States has had a widespread impact on all aspects of society. The epidemic extends across multiple delivery points in the health care ecosystem, with no single entity capable of implementing a complete solution. While a holistic approach involving the entire ecosystem is likely required, health plans and pharmacy benefit managers (PBMs) have an opportunity to curb opioid misuse among their members and in their communities—by leveraging data and technology to improve prevention and treatment.

To help identify some potential strategies, the Deloitte Center for Health Solutions interviewed 35 clinical, pharmacy, data analytics, and policy leaders from health plans and PBMs across the country. We found that a growing number of health plans and PBMs are taking a data-driven, evidence-based approach to help change patient and physician behavior. We expect emerging technologies to play an increasing role in supporting these endeavors in the battle against the opioid epidemic.

According to our major findings, potential strategies for health plans and PBMs include:

- **Leveraging data and emerging technologies:** Many health plans and PBMs are finding that data is a powerful tool in addressing opioid misuse. Building on traditional fraud, waste, and abuse (FWA) programs, health plans are leveraging new techniques to analyze their claims and utilization data to identify clinicians whose opioid-prescribing patterns might go against clinical guidelines. Many health plans are reaching out to these clinicians, providing feedback, and creating shared decision-making tools to help them more effectively navigate treatment options with their patients. While it is still early, health plans and PBMs are also turning to technologies such as data analytics, hot-spotting (a data-driven process for the timely identification of outlier patterns), predictive modeling, and virtual care.

- **Working toward more streamlined data collection and sharing:** Data is being used to design evidence-based approaches to changing benefits and incentives, as well as for utilization-management programs such as prescription fill limits or prior authorizations. Nevertheless, there are limitations and barriers to using data to its full potential, according to our interviewees. Barriers include a lack of interoperability across the health care system, and silos that limit stakeholders from having a holistic view of the patient. Health plans and PBMs are reaching out across the ecosystem to collaborate and explore ways to share data. However, stakeholders cite limitations in data-sharing, including challenges accessing real-time data from prescription drug monitoring programs (PDMPs)—state databases used to track prescriptions for controlled substances that patients have filled. Some interviewees also noted that in circumstances where there is an opportunity to save lives, privacy regulations need to be modernized.

- **Supporting the development of evidence-based standards and quality metrics to define and encourage successful treatment:** Respondents view their organizations as being integral to increasing members’ access to medication-assisted treatment (MAT) for opioid use disorder (OUD). They are working to help members have access to long-term management and support, and identify strategies to better integrate behavioral and physical health. They cited the need for accreditation and improved standards for treatment facilities and programs, as well as evidence-based standards and robust quality metrics to define successful treatment. Quality metrics and standards could help advance value-based care payment models for prevention and treatment. For a look at the distribution of MAT facilities in the United States, visit Deloitte’s interactive tool.
Advocating for policy changes at the federal level: Health plans and PBMs represent just one part of the health care system, and they cannot solve opioid misuse by themselves. Many are advocating for changes such as workforce development policies to encourage health care professionals to pursue behavioral health specialties and for mandating electronic prescribing of controlled substances (EPCS). Our interviewees also agreed that more research is needed on chronic pain, substance use disorder (SUD), and addiction. They cited the need for more research on effective non-opioid pain-management therapies and for developing leading practices to address factors outside the health care system that impact health and specifically SUD. These factors, specifically the social determinants of health, include unemployment, loneliness, and family members with SUD.

Despite limitations in the availability and completeness of data, many health plans and PBMs are using the information and evidence they do have to develop leading practices. Many of their programs focusing on educating consumers and clinicians about prescription guidelines have successfully curbed prescription rates. Although there are clear health care and societal savings associated with helping someone overcome an addiction, the best strategies for long-term success are not always clear. For many health plans, addressing opioid misuse among their members and in their communities is a key strategy for improving health outcomes. PBM stakeholders told us that taking on this challenge is a critical part of their mission and an important opportunity to mitigate future financial and reputational risk. Although prescription rates for opioids have decreased in recent years, many industry observers agree that the rates of addiction, overdose, and death will likely get worse in the coming years before they start to improve.

This complex, multifaceted problem calls for systematic solutions across the health care system.
PRESCRIPTION opioids can be effective in treating pain. However, sometimes, whether taken alone or in combination with other drugs, they can lead to abuse, addiction, and in some instances, life-threatening adverse events. Opioid misuse is frequently front-page news, and overdoses and opioid-related mortality rates have been increasing for more than a decade. There are many reasons for this, but they go beyond the scope of this report. Briefly, they include an intense focus on pain management, marketing campaigns, quality metrics that are built around pain management, a gap in the understanding of chronic pain and addiction pathways, and (until recently) a lack of clear guidance on the appropriate use of opioids. Health plans and PBMs, like other stakeholders in the health care ecosystem, are working to address this crisis.
Figure 1. How big is the opioid crisis?

Opioid misuse has become a front-page issue affecting nearly every community and requires a systemic solution.

Sources: (1) Institute of Medicine Report from the Committee on Advancing Pain Research, Care, and Education, Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education and Research (The National Academies Press, 2011); (2) CDC National Center for Injury Prevention and Control, Annual surveillance report of drug-related risks and outcomes, United States, 2017; (3) CDC Vital Signs, July 2017; (4) SAMHSA, Key substance use and mental health indicators in the US, September 2017; (5) Department of Health and Human Services; (6) TJ Cicero, MS Ellis, HL Surratt, and SP Kurtz, “The changing face of heroin use in the United States: A retrospective analysis of the past 50 years,” JAMA Psychiatry, 2014, p. 71.

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THE OPIOID EPIDEMIC IS AFFECTING EMPLOYERS AND EMERGENCY ROOMS

Although the United States has just 5 percent of the world’s population, we consume 99 percent of the world’s hydrocodone and 81 percent of its oxycodone. According to some estimates, opioid use in the United States is 30 times higher than is medically necessary given the size of the population. Here’s how the opioid epidemic is affecting employers and hospitals:

- **Employer costs:** A large, self-insured employer could spend an additional $14,810 for each covered employee who abuses opioids. While prescription opioid use has declined to its lowest level since 2009, the cost of treating addiction and overdoses has increased substantially, according to the Kaiser Family Foundation. In 2016, large, self-insured employers collectively spent $2.6 billion to treat opioid addiction and overdoses—up from $300 million 12 years earlier.

- **Burden on the emergency room (ER):** The rate of ER visits for suspected opioid overdoses increased by an average of 30 percent among 45 states from July 2016 to September 2017, according to the Centers for Disease Control and Prevention (CDC).
Potential health plan and PBM strategies to combat the opioid crisis

SUBSTANCE abuse is not new to the US health care landscape, but the demographics for opioid misuse are different. In addition to urban areas, the opioid crisis is affecting many suburban and rural communities. Workers’ compensation claims were an early indicator of the emerging opioid crisis, more so than health insurance claims or other signals. A 2012 report by Lockton Companies concluded that prescription opioids were the top driver of indemnity losses related to workers’ compensation claims. The report noted that prescription opioid abuse stemming from the management of chronic pain had the most damaging impact on claims.

Data analytics helps bring the issue into focus

Many of our health plan and PBM interviewees said that in the early years of the epidemic, their organizations had focused on monitoring prescribing data to avoid FWA. From this data, they began to realize over the past five years that patients were often treated with too much pain medication or for longer than recommended. This typically happened after routine surgery or dental procedures. As a result, ER admissions for opioid overdoses and opioid-related deaths were rising. Health plans and PBMs realized that the health care system needed to reframe the issue. The substance abuse and addiction models of the past need to be rethought. They also knew they had to look at broader data beyond what is traditionally used to target FWA.

As health plans began to review their data, descriptive analytics helped them bring the issues into sharper focus. They started to identify some of the metrics they wanted to target, such as prescription rates, total morphine milligram equivalents (MME), and duration of therapy. Health plans also began to look at which diagnoses were being treated with opioids (where the medical and pharmacy data could be linked). They were then able to identify certain clinicians who had higher opioid prescribing rates than their peers. The CDC’s 2016 guidelines on opioid prescribing were helpful in directing clinicians to appropriate, evidence-based opioid-prescribing guidelines.

OUD is hard to generalize and can affect anyone regardless of geography, age, income, education, and other factors. However, many health plans and PBMs began to see patterns emerge in the data that could help identify certain factors that might increase a patient’s risk of becoming dependent on or addicted to opioids.

- Risk varies by age and gender: OUD diagnoses increased 493 percent from 2010 to 2016,
according to a 2017 study published by the Blue Cross Blue Shield Association (BCBSA). The study shed light on certain populations that might be at higher risk under certain circumstances. For instance, it showed that women over the age of 45 tend to have a higher risk for OUD compared to men in that age group. The pattern is reversed for people younger than 45, with men being at higher risk than women.

- **Drug combinations could increase risk:**
  In an effort to identify the characteristics of patients who are likely to overdose, a team of addiction researchers and epidemiologists at Geisinger Health System examined the medical records of more than 2,000 patients, including those who had experienced an overdose. The study found that patients who take high doses of prescription opioids, combined with psychotropic medicines, might need closer monitoring. Other risk factors include being unmarried, uninsured, or publicly insured; having a history of previous addiction, mental illness, or chronic disease; and a diagnosis of hepatitis or lower back pain.

  As health plans analyzed their data, they could see who was on a long-acting opioid (not recommended as a first-line drug for acute conditions) versus a short-acting opioid, which might be more appropriate. In 2018, a large study showed that patients who were prescribed long-acting opioids were 2.5 times more likely to suffer an accidental overdose than those who were prescribed short-acting formulations. Given the amount of inappropriate prescribing, many health plans added an edit to their claims systems, which directs physicians to prescribe certain medications as a first-line therapy, with certain quantity limitations.

  Placing limits on the duration of prescriptions was one of the most common early intervention strategies used by health plans to curtail opioid abuse. The 2016 CDC guidelines were helpful in creating their messaging. But our interviewees emphasized that it is not enough to limit supply. In some cases, that strategy could lead to unintended consequences. Research shows that limiting opioid prescriptions for those already taking opioids can sometimes open the door to heroin use. Heroin can be cheaper than prescription opioids.

  Our respondents recognized that some physicians have complex patients who are dealing with chronic pain, multiple comorbidities, possibly mental health issues, and other complicating factors. Interviewees cited a need for more effective risk-assessment and decision-support tools that are either online or integrated into electronic medical records (EMRs) to guide clinicians trying to manage these more complex patients. The number of technology-based tools that can help clinicians is increasing. Table 1 on page 10 provides examples and use cases that are starting to hit the market and could be deployed more widely in the future. The challenge is integrating these technologies into the clinical workflow, having dynamic tools that can be updated as patients’ conditions evolve, and integrating the technology with the practice of other clinicians treating the patient.

**From retrospective data analysis to predictive modeling**

Novel analytic techniques can help health plans and PBM leverage their data to identify people at high risk for opioid misuse. Many health plans and other health care stakeholders are in the early stages of creating predictive-modeling tools. As they learn more about the drivers and predictors of opioid-related risk, they are employing analytics to identify at-risk patients in order to intervene before an overdose occurs. This includes combining data from more than one source, such as pharmacy claims, insurance claims, and even claims from other insurers. By creating models that can provide flags for people facing a higher risk of overdose, health plans can intervene before an event occurs. The importance of predictive modeling is illustrated by the following example: a simple model that identifies people who are over 65, are prescribed long-acting opioids, and have a history of previous overdose can yield positive results. Patients identified by such models can then be offered treatment to prevent an overdose.
“We knew we could not just put a quantity limit on prescribing across the board. It’s not just about setting rules and changing coverage. There are patients out there who are dealing with complex chronic pain issues, and we need to make sure those patients with both substance use disorder and chronic pain are getting effective treatment. We have invested in a number of web-based tools and supports for the care team and the patient. And we are piloting many different comprehensive approaches to pain management. We are also working to get information on effective MAT programs and providers to our primary care physicians.”

— Doug Nemecek, MD, chief medical officer, Behavioral Health, Cigna Corporation

The duration of opioid treatment following surgery was the strongest predictor of opioid abuse among commercial health plan enrollees with no history of misuse or ongoing opioid use, according to a 2018 *British Medical Journal* study. Each additional week of opioid treatment increased the risk of dependence or overdose by nearly 20 percent. Each additional refill increased the risk by 44 percent.

Some health plans are segmenting their populations into different risk categories, and are studying how people move in and out of the categories. This can improve a health plan’s ability to identify people who might be at risk early on, and offer interventions at the appropriate time. For example, the lowest-risk groups might include members who have no SUD claims and no use of nicotine or other substances. The highest-risk categories might be members who have SUD diagnoses from ER visits or other hospital visits, but are not currently seeking treatment. Health plans and other stakeholders that use predictive modeling can continue to refine their models and test out different interventions to continue to learn what works.

**Emerging technologies are playing a role in supporting strategies to reduce opioid misuse**

In addition to data analytics and predictive modeling, emerging technologies can also be used to help fight opioid dependency and addiction. As seen in table 1 on page 10, many health plans and PBMs are already leveraging some technologies, and could begin using others to reduce opioid misuse in their populations and communities.
WHAT TOOLS ARE HEALTH PLANS AND PBMS USING TO TARGET OPIOID MISUSE AND ABUSE?

- **Pharmacy lock-in programs**: These programs aim to prevent patients from getting multiple prescriptions and/or using multiple pharmacies for controlled substances.

- **Utilization-management tools**: Health plans use utilization-management tools to design and develop value-based approaches that provide access to necessary treatments. These tools can help encourage safe, effective care at affordable costs. Tools might include prior authorization for prescription pain medication, step-therapy (which promotes an evidence-based, systematic approach to therapy), and prescription tiering (in which certain drugs or drug classes are preferred over others). Studies have shown that utilization-management techniques can be successful in curbing opioid misuse.15

- **Medication-assisted treatment (MAT)**: MAT is defined by the Substance Abuse and Mental Health Services Administration (SAMHSA) as the use of medications in combination with counseling and behavioral therapies for the treatment of SUD. The medications used in MAT may help block other narcotics or help with withdrawal symptoms, and they do not cause the euphoric high associated with opioid misuse. A meta-analysis of 50 studies showed the retention rate for methadone ranged from 70 percent to 84 percent at one year. The retention rate for buprenorphine ranged from 60 percent to 90 percent at one year. Both of these OUD treatments resulted in significantly fewer overdose deaths, as well as reductions in illicit drug use, criminal activity, arrests, high-risk behaviors, HIV and hepatitis C incidence, as well as improvements in health status, functionality, and quality of life.16 About half of those who have an opioid addiction, who took either a monthly shot of naltrexone or a daily pill of buprenorphine and naxolone, remained free from relapse six months later, according to a 2017 research.17

- **Virtual and digital care**: Health plans and PBMs can use emerging technologies to deal with opioid dependence and addiction. For instance, telehealth can help bring together multidisciplinary experts to treat SUD. For more information on how technology can help, see table 1 on page 10.
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<td>Virtual care</td>
<td>Telehealth is a component of many health plan behavioral health and substance use disorder (SUD) programs. It can help primary care clinicians—who might not have expertise in pain management and/or SUD—better manage their patients by leveraging multidisciplinary specialists. Telehealth can also connect patients who have limited access to behavioral health specialists with counseling services.</td>
<td>BestSelf Behavioral Health is deploying recreation vehicles equipped with exam rooms and telemedicine equipment to provide MAT and counseling for patients who have an opioid addiction. The company received a grant from New York’s Office of Addictions and Substance Abuse Services, part of the Substance Abuse and Mental Health Services Administration. The telehealth vans include mobile health units, mobile health apps, and telehealth programs designed to connect at-risk people to substance-abuse and behavioral-health counseling. The programs also connect primary care physicians with specialists for consultations.</td>
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<td>Digital therapeutics</td>
<td>Many companies are developing mobile apps to help with SUD prevention and treatment. Some health plans are interested in this emerging space, but want more evidence about which apps work for which populations, and at what points in the prevention and treatment spectrum.</td>
<td>Clinical trials for Pear Therapeutics’ reSET-O™ have demonstrated improved abstinence and increased program retention when used in combination with medications for opioid use disorder (OUD). Studies indicated that the digital tool, when combined with pharmacotherapy, enhanced abstinence and helped reduce patient dropout rates as well as the amount of clinician intervention needed.</td>
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<td>Remote patient monitoring (RPM)</td>
<td>Video and mobile technology could help physicians remotely monitor adherence to medications that help patients manage opioid cravings. RPM has the potential to reduce hospitalizations, readmissions, and length of stay in hospitals for many conditions. Some health care companies are starting to explore its use in OUD.</td>
<td>A company called emocha is using RPM to target medication adherence among people receiving MAT for OUD. Patients who use this system log in using a smartphone app. They can enter side effects they are experiencing, detail how they are feeling, and record a video of themselves taking the pill. The information is then transmitted to the clinician.</td>
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<td>Artificial intelligence (AI) and machine learning</td>
<td>Health plans could use cognitive technologies, such as machine learning and AI, to generate patient insights based on claims data (for example, encounters, prescribing patterns) to determine which patients might be at risk for opioid abuse.</td>
<td>Cigna Corporation is using AI and machine learning techniques to address opioid misuse. The health plan’s Opioid Likely Overdose Risk Model uses machine learning with integrated claims data and analytics to detect opioid-use patterns that suggest possible misuse that could lead to overdose or death. Allina Health, an integrated delivery system serving patients throughout Minnesota and western Wisconsin, aimed to minimize excessive quantities of opioids in the community that remained after use from prescriptions for patients who have acute pain. To support clinicians in completing the workflow outlined in the guideline, Allina developed a structured order set and progress note to aid in adherence to the systemwide chronic pain management guideline in the EMR.</td>
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Strategies for stemming the opioid crisis
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<td>Machine learning helps give a view into what is happening in different areas, and can serve as an early warning system. Clinical practice guidelines and other information can be integrated into the EMR so that shared decision-making is easier for the clinician and patient.</td>
<td>In addition, the health system included access to the state’s Prescription Drug Monitoring Program, risk assessment tools, and an appropriate-dosage calculator. After a year, results include a 12 percent reduction in opioids prescribed in the outpatient setting, and an 18 percent reduction in patients with acute or chronic pain who receive eight or more opioid pill prescriptions over 12 months. Along with these results, patient satisfaction rates have remained high.</td>
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<td>Robotics and automated technologies</td>
<td>Automated technologies and robots can free up pharmacists, who can then be embedded with the care team. A critical role of the pharmacist is to help ensure the patient gets the correct number of pills in the correct dosage. Robots are doing this in some pharmacies around the country to free up the pharmacist to work more closely with the patient and care team.</td>
<td>While technology and automation could take on many of a pharmacist’s tasks, pharmacists are looking to expand their roles. Steve Cutts, vice president of pharmacy services and clinical strategies at <a href="https://www.magellancare.com/">Magellan Rx Management</a>, told us: “Many pharmacists want to spend more time with the patient. Pharmacists are trusted professionals, we have diverse training, and are accessible to consumers. Beyond dispensing medications, we can help manage chronic conditions by deploying evidence-based interventions through medication therapy management and coordination with treating providers. Automated technologies can free up the pharmacists to focus on these cognitive services. For patients newly prescribed an opioid, pharmacists can help on the frontlines with education and management.”</td>
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<td>Virtual reality (VR)</td>
<td>VR simulates an environment that could accelerate behavior change in patients in a way that is safer, more convenient, and more accessible. Studies show that VR can help patients deal with addiction and trauma, and can encourage behavior change. Research is testing whether VR could also help manage pain.</td>
<td>Researchers at the <a href="https://www.uh.edu/">University of Houston</a> are using VR-based addiction treatment to study innovative methods to combat SUD. The team started by helping people to stop smoking. It then moved on to alcohol misuse, and more recently, injection drug use. People who have an addiction put on a VR headset and navigate through different situations in a fully immersive environment based on their typical drug use. If the participant experiences the craving, the team can physiologically monitor the responses, as the participant learns coping skills. VR treatment is not meant to replace comprehensive treatment, but it might have the potential to supplement treatment.</td>
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| Medtech innovation | Medtech innovation includes devices and technologies designed to reduce pain, devices for medication management and pill dispensing, diagnostic tests that can monitor overdose risk, and technologies that monitor withdrawal and prevent overdoses. | Companies that are developing devices that could be used in pain management include:  
- [Myoscience](https://www.myoscience.com/), which developed the Iovera system, a device that uses cryoablation to stop pain signals from traveling to the brain. It may be able to treat several nerves in the body for opioid-free pain relief.  
- [Nevro](https://www.nevro.com/) and [Stimwave](https://www.stimwave.com/), which are marketing spinal cord stimulation or neurostimulation to treat acute and chronic pain. An implantable device sends mild electrical pulses to the nerves to help interrupt the transmission of pain signals to the brain.  
- [Regenesis Biomedical](https://www.regenesisbiomedical.com/), which has created the Provant therapy system, a noninvasive medical device that delivers dual-field pulsed electromagnetic energy to an area of pain for a therapeutic and drug-free solution. It reduces pain by inducing the natural endogenous opioids that form in the body. |

Source: Deloitte Center for Health Solutions.
“In 10 years, I believe in-person office visits for behavioral health will be the exception, and telehealth visits will be the rule. It will be the standard of care as the technology continues to improve and people become more at ease with it. For the patient, it is often more convenient, private, and they may be more comfortable in their home or in a familiar setting.”

— James Schuster, MD, chief medical officer, Medicaid, Special Needs and Behavioral Services and VP, Behavioral Integration, UPMC Insurance Division
Working toward more streamlined data collection and sharing

Although data analytics is typically an essential part of health plan and PBM strategies to target opioid misuse, our interviewees cited many limitations and barriers to using it to its full potential. These include lack of interoperability and siloed systems, limitations of PDMPs, and privacy regulations that need to be modernized. Increased collaboration across the ecosystem could help resolve some of these challenges, but policy changes may also be necessary.

BENEFITS AND LIMITATIONS OF PDMPs

PDMPs collect data from pharmacies to track the prescriptions for controlled substances that patients have filled. When physicians or dentists check their state’s PDMP database, they can look for worrisome patterns of opioid prescriptions. From there, they can deny or change a prescription or educate the patient about other options or addiction treatment.

Studies show that PDMPs can help change prescribing patterns and reduce possible harm from opioids. But PDMPs have limitations:

- **PDMP use is voluntary in many states and in many circumstances.** Dispensers, such as pharmacies, are required to upload the information into the database after dispensing a prescription, but only 29 states mandate that prescribers and/or pharmacists use the PDMP. A state can outline only certain situations that require a physician or pharmacist to obtain a PDMP report, such as prior to a patient’s initial opioid prescription. Only 26 states require all prescribers and/or dispensers to register for PDMP access.

- **Often, data is not shared across state lines.** To date, 34 states are actively participating in the National Association of Boards of Pharmacy PMP InterConnect®, which transmits data to each contributing state. Several other states will be added to the program in the coming months.

- **PDMPs will likely not be effective when patients use false identities,** or when controlled substances are obtained from illegal diversionary markets.

Efforts are under way to improve PDMPs. The Prescription Monitoring Program Training and Technical Assistance Center at Brandeis University, for example, provides a wide range of services and supports to PDMPs, federal partners, and other stakeholders to build on and improve the effectiveness of PDMPs.
Our interviewees, all of whom rely on data to shape their strategies, expressed a desire for additional data, from a variety of sources beyond their purview. For example, some organizations have only medical data. Pharmacists and PBMs are often limited to pharmacy data. Some organizations have both, but lack behavioral health data, toxicology data, or data from EMRs. This data could help them refine and improve their data analytics and predictive-modeling tools. It could also help them develop better tools to help clinicians deal with complex patients.

Health plans and health systems are also starting to collect more data around the social determinants of health (SDOH)—factors outside the health care system that influence health and may drive addiction and OUD. Such SDOH data may include information on a person’s environment, income, access to healthy food, or transportation barriers that make it difficult to access care. Our interviewees agreed that SDOH data is sparse and not easily accessible at the point of care. A recent Deloitte report shows that only one-third of hospitals are integrating any kind of SDOH data in the EMR. And, just because the data is there, it does not mean that the care team is accessing it. Another finding of the report was that the SDOH data residing in the EMR often gets buried in unstructured data such as social work notes, and is not accessed or used by the clinician.

As discussed earlier, even if clinicians have access to these additional data sources, there are frequently challenges with integrating them in the workflow, ensuring that the data is updated, and integrating the data with the practices of other clinicians treating the patient (see table 1 on page 10 for early solutions that may be more widely deployed). This was reinforced by speakers at a March 2018 hearing held by the US Senate Health, Education, Labor, and Pensions Committee on the opioid crisis, who highlighted challenges with data-sharing.

Some of the expert witnesses stressed the importance of having a holistic view of the member, patient, or person in the community. Sanket Shah, a health informatics professor at the University of Illinois, recommended ways in which federal agencies could integrate multiple data sources at the local and state level. Having a centralized data repository could help further advance predictive analytics and identify high-risk individuals earlier. He also asked the committee to consider supporting the Prescription Drug Monitoring Act of 2017, which would require states that receive federal grant funding to establish a PDMP to enable data-sharing with other states. The act would also fund a data-sharing hub to serve as a central repository.

**Having a centralized data repository could help further advance predictive analytics and identify high-risk individuals earlier.**

Some of our interviewees noted that the lack of data-sharing was not solely a technical problem. There are also cultural issues related to data-sharing, as well as an inherent risk. Any entity that handles health care data needs to ensure that it has systems in place to secure it and keep it private. Additionally, a 46-year-old privacy law (42 CFR Part 2) protects the disclosure of SUD diagnosis or treatment information to avoid deterring patients from seeking care and then potentially facing stigma from employers, insurers, housing, child custody, and other situations. The law requires the patient’s consent whenever this information is disclosed. Many stakeholders view some elements of this law to be a barrier to improving behavioral and physical health care integration.

To encourage more data-sharing, the federal government and states need to have appropriate regulations in place to navigate security and patient privacy concerns and the tricky issue of who owns the data.
Interviewees expressed a desire for more data to help them advance their analytics and predictive-modeling tools. With various stakeholders having different information about a member, patient, or person in the community, it is difficult for any stakeholder to get a holistic view of the person and intervene early.

Source: Deloitte Consulting LLP.
Supporting the development of evidence-based standards and quality metrics to define and encourage successful treatment

Our interviewees discussed the stigma around OUD and the role health plans and PBMs can play in fostering the acceptance of OUD as a chronic condition. Comparing the use of medication for OUD with treatments for type 2 diabetes, many of our interviewees illustrated how attitudes toward OUD were different. While most health care professionals accept that a patient diagnosed with type 2 diabetes should continue with a medication therapy that works, this is not always the case with OUD. As discussed in the sidebar “What tools are health plans and PBMs using to target opioid misuse and abuse?” there is substantial evidence that MAT can reduce overdose deaths, illicit drug use, criminal activity, and risky behaviors, and help improve health status, functionality, and quality of life. Despite the evidence, some people believe that at a certain point, a person should not be treated with medication for OUD. Instead, the goal is abstinence from any opioid. Many of our interviewees said they felt the need to educate their own staff on the evidence, as well as their network providers and community. Other suggested strategies include increasing access to MAT through benefit design and improving the integration of behavioral and physical health.

Another challenge in efforts to support treatment is the shortage of supply of SUD treatment facilities and staff. Waitlists persist in almost every state. A 2017 Health Affairs analysis reveals significant gaps in access to MAT across the United States (see Deloitte’s interactive tool for more information). During his first few weeks as secretary of the US Department of Health and Human Services (HHS), Alex Azar, touting MAT as a critical tool in the fight against opioid misuse, stated that only

### MAT TREATMENT GAPS, DEMOGRAPHICS, AND OPIOID-RELATED DEATHS

Deloitte developed an interactive map using data to highlight where MAT treatment gaps persist in the United States. The map shows the distribution of facilities that offer various medications for MAT at the county and state levels, and how that distribution corresponds to some measures of the opioid crisis, such as opioid prescription rates, age-adjusted death rates of people aged 15 years and older, and key demographic data. Key findings from the tool include:

- Sixty percent of all SUD treatment facilities do not offer any form of MAT, while 54 percent of facilities that treat opioid addiction do not offer any form of MAT. Interviewees emphasized the importance of patients with OUD having access to some form of MAT.

- Only 7 percent of all MAT facilities offer all three recommended medications (some form of methadone, buprenorphine, and naltrexone). These facilities offer mental health services as well. Our interviewees stressed the importance of treating OUD and mental health concurrently.

- The 100 counties with the highest opioid-related death rates (3 percent of all counties in the country) have 7 percent of the overall US population, but 27 percent of the total opioid-related deaths. These counties have 10 percent of all SUD facilities, and 10 percent of all opioid prescriptions.
one-third of SUD treatment programs offer MAT. In response, the administration aims to raise this number through initiatives, such as new guidance from the US Food and Drug Administration, and by encouraging new studies around MAT.35

Other efforts by health plans to increase access to MAT include:

• Reducing barriers to buprenorphine initiation and maintenance
• Encouraging physicians to use a multidisciplinary team-based model of care that includes licensed clinical social workers, nurses, or medical assistants to handle some of the administrative, educational, and care-coordination functions that are required to offer MAT
• Simplifying administration and reporting between primary care clinicians and the health plan
• Expanding the use of telehealth for MAT to increase access

Many interviewees also said that the lack of standardized quality outcome measures for SUD and opioid treatment can make it challenging to secure high-quality treatment for members. Cigna is working with the American Society of Addiction Medicine in partnership with researchers to validate treatment outcome measures. Many health plans are also working with Shatterproof, a nonprofit organization focused on addiction, to develop treatment quality measures.36

Moving forward, health plans and PBMs want to evolve value-based payment models along with the rest of the health care system. Value-based payments for behavioral health issues, including opioid disorders and SUDs in general, have traditionally lagged behind medical and surgical conditions. One major challenge is the lack of standardized quality measures. Some health plans are piloting programs around prevention and treatment, and are advocating for policy changes to address the limitations in data.

VALUE-BASED CARE AND OPIOID USE

Despite the lack of standardized quality measures, some health plans are developing value-based care payment models around opioid use. California, Rhode Island, and Vermont have different programs for opioid dependency in their Medicaid programs.37

• The San Francisco Medicaid Health Plan has pay-for-performance incentives for leading practices using pain-management guidelines, opioid-review committees, and limiting the use of short-acting opioids. The Medicaid Partnership Health Plan of California provides an incentive to clinicians who complete education and training on buprenorphine prescribing, obtain a Drug Enforcement Administration waiver, and accept new patients for treatment.

• In Rhode Island, more than 2,600 Medicaid members who have an opioid-use disorder have been auto-assigned to a treatment program. The state pays a weekly bundled rate for both fee-for-service members and managed care members.

• Vermont has a hub-and-spoke model. Hubs are highly regulated specialty treatment centers run by opioid treatment program-licensed providers. The centers provide methadone treatment and receive a monthly bundled rate per member. Spokes are office-based treatment programs that also offer primary care, ob-gyns, and psychiatry that include buprenorphine treatment.
The path forward for stakeholders across the health care system

“This epidemic is multifactorial. Segments of the US are experiencing sixfold greater levels of opioid prescribing, leading to increased rates of addiction. We know there are pockets of the country where the overdose and death rates are profound. And we know there are other, complex issues at play, including social determinants of health, hopelessness in the face of high rates of unemployment, and the emotional and financial stress people who have family members struggling with opioid use disorder often face. We need more research to understand and address all of these issues.”

— Hal Paz, MD, MS, executive vice president and CMO, Aetna.

The health care ecosystem has several stakeholders that engage individuals at various points in the care delivery chain. These include prescribing clinicians, PBMs, retail pharmacies, health plans, behavioral health providers, employer plan sponsors, and policymakers. Previous Deloitte research, “Fighting the opioid crisis: An ecosystem approach to a wicked problem,” has framed an ecosystem approach to address the opioid problem that includes public health stakeholders, economic and workforce development, the criminal justice system, and child welfare and other social services, in addition to the health care system.

Traditionally, as each of these stakeholders has wrestled with how to prevent and manage OUDs, they have developed a series of solutions at different points along the chain. Health plans recognize that a more comprehensive approach is required to address the opioid epidemic. This involves different types of interventions across the three main pillars of the prescription life cycle: identification, prevention, and treatment and recovery (see figure 3).
### Figure 3. Solutions can address stakeholder intervention opportunities along the patient journey

<table>
<thead>
<tr>
<th>Objective</th>
<th>Identification</th>
<th>Prevention</th>
<th>Treatment &amp; recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify risk and/or potential signs of misuse, abuse, and diversion early</td>
<td>• Prevent transition from pain treatment to opioid use disorder (OUD) and intervene with high-risk patients earlier</td>
<td>• Engage to get patients to seek treatment and support their recovery</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach</th>
<th>Example(s)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Opioid risk screening and Prescription Drug Monitoring Program (PDMP) use by provider</td>
<td>• Fraud, waste, and abuse</td>
<td>Prevent addiction from occurring in the first place in some populations; intervene with high-risk groups earlier</td>
</tr>
<tr>
<td>• Ongoing monitoring and education following evidence-based guidelines</td>
<td>• Case management</td>
<td>Early identification of potential signs of abuse</td>
</tr>
<tr>
<td>• Policy and plan design to provide access to treatment and monitoring to manage targeted interventions</td>
<td>• Pharmacy lock-in</td>
<td>Intervene to support patients’ sustained recovery</td>
</tr>
</tbody>
</table>

Prevent patient relapses; use effective identification, treatment, and recovery strategies to drive future prevention strategies

Source: Deloitte Consulting LLP.

Ecosystemwide approaches might also require policy considerations. Our interviewees noted that their organizations are supporting policy changes, including modernizing privacy regulations, developing policies that aim to increase the number of mental health and behavioral specialists, and mandating electronic prescribing of controlled substances.

Interviewees also discussed the need for more research on chronic pain as well as effective non-opioid pain-management therapies. A 2018 study showed that prescription opioids were not more effective than over-the-counter drugs or other non-opioids in treating chronic hip or knee pain, for example. Because they do not involve potentially addictive medications, stakeholders are interested in exploring these alternative methods. In 2018, Ohio’s Medicaid program became the first in the Midwest to cover acupuncture for the management of low-back pain and migraines. In addition to understanding pain and pain relief better, interviewees also called for more research on SUD and addiction. They want to know more about the factors and comorbidities that put people at risk. They also discussed the importance of creating a deeper understanding of the SDOH, specifically factors related to the opioid crisis, some of which
“So many people and organizations are addressing the opioid problem with different strategies. It’s a fragmented approach, and we risk competing amongst ourselves for attention and resources. What we need is more collaboration between the health plans, health systems, and community partners. At Geisinger, we are working with several different community nonprofits in Pennsylvania and in a few other states. We are working with pharmacy schools at universities. We are sharing data from multiple sources and developing a coordinated strategic plan for the county.”

— Perry Meadows, MD, medical director for government programs, Geisinger Health Plan
ENDNOTES

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27. Ibid.
28. Ibid.
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PROJECT TEAM

Andreea Balan-Cohen managed the project and data analysis of the interactive tool. Jason Lewris, Venkatesh Gangavarpu, Mayank Baheti, and Shruti Panda were responsible for data collection, cleaning, and analysis that underpin both the visualization and key quantitative findings in this study. Jesús Leal Trujillo and Sushmita Biswal were responsible for geospatial analysis in this study and for ensuring data integrity. Daniel Byler coordinated these data analysis efforts. Amy Hoffmaster contributed to the qualitative interviews and secondary research.
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